Amendments to the Claims:

1. (currently amended) A method of closed-loop multi-stream wireless communication between transmitter means ~~(1)~~ comprising a transmit antenna array of a plurality of N transmit antenna elements and receiver means ~~(3)~~ comprising a receive antenna array ~~(4)~~ of a plurality of M receive antenna elements, wherein a plurality of distinct data streams (x_1, x_2) are transmitted from said transmit antenna array to said receive antenna array and said data streams are weighted by respective complex weighting matrices before being applied to said transmit antenna array, said distinct data streams being separated and estimated at said receiver means, the method comprising:

   applying said distinct data streams (x_1, x_G) to respective sub-groups ~~(6, 7)~~ of said transmit antenna elements at least one of which comprises a plurality of said transmit antenna elements, each of said sub-groups comprising at least N_d transmit antenna elements, where M is greater than or equal to (N/N_d), said complex weighting matrices (v_1 to v_n) being functions of the respective transmission channels (h_{ij}) of said data streams (x_1, to x_G) between each of the plurality of N transmit antenna elements and each of the plurality of M receive antenna elements including the respective sub-groups of transmit antenna elements.

2. (original) A method as claimed in claim 1, wherein N_d is greater than or equal to two.

3. (currently amended) A method as claimed in claim 1, wherein each of said complex weighting matrices is calculated to be substantially equal to the eigenvector corresponding to the largest eigenvalue of the matrix $\mathbf{H}^H\mathbf{H}$, where $\mathbf{H}$ is the matrix of the equivalent channel including the respective sub-groups of transmit antenna elements ~~(6, 7)~~ seen by the corresponding data stream and $\mathbf{H}^H$ is the Hermitian transform of the matrix $\mathbf{H}$.

4. (previously presented) A method as claimed in claim 1, wherein the number of said transmit antenna elements in each of said sub-groups is re-configurable during operation.

5. (canceled).

6. (canceled).

7. (new) An apparatus for closed-loop multi-stream wireless communication between transmitter means having a transmit antenna array of a plurality of N transmit antenna elements, and receiver means having a receive antenna array of a plurality of M receive antenna elements, wherein:

the transmitter means is operable to transmit a plurality of distinct data streams (x_1, x_G) from said transmit antenna array to said receive antenna array and to weight said data streams by respective complex weighting matrices before being applied to said transmit antenna array,

the receiver means is operable to separate and estimate said distinct data streams, and

the transmitter means further comprises means for applying said distinct data streams (x_1, x_G) to respective sub-groups of said transmit antenna elements at least one of which comprises a plurality of said transmit antenna elements, each of said sub-groups comprising at least N_d transmit antenna elements, where M is greater than or equal to (N/N_d), said complex weighting matrices (v_1 *to* v_n) being functions of the respective transmission channels (h_{ij}) of said data streams (x_1, *to* x_G) between each of the plurality of N transmit antenna elements and each of the plurality of M receive antenna elements including the respective sub-groups of transmit antenna elements.